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## Voices in Transition: EFL Learners' Interaction with AI Tools to Improve Speaking

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**Abstract:** This study explores how English as a Foreign Language (EFL) learners experience and make sense of their interactions with Artificial Intelligence (AI) tools to develop speaking proficiency. Using a narrative inquiry approach, in-depth interviews and reflective journals were collected from 12 learners who regularly used ChatGPT, ELSA Speak, Duolingo, and MySpeaker Rhetorich. Grounded in Sociocultural Theory and Swain's Output Hypothesis, the analysis examined how AI mediated learners' cognitive and affective engagement within their Zones of Proximal Development. Findings revealed that AI tools created psychologically safe spaces, reduced speaking anxiety, and provided immediate, precise feedback, fostering greater fluency, accuracy, and learner autonomy. Learners valued AI's personalization and accessibility but also noted limitations in cultural nuance, humor, and emotional depth, positioning AI as a supplement rather than a substitute for human interaction. This study offers qualitative insights into the affective and social dimensions of AI-mediated speaking practice, highlighting strategies for integrating AI into EFL pedagogy to support both linguistic development and emotional readiness for communication.

**Keywords:** AI-assisted learning, language learner narratives, speaking proficiency, technology in EFL

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## INTRODUCTION

The integration of Artificial Intelligence (AI) into English as a Foreign Language (EFL) education has brought measurable and diverse changes to how learners access, practice, and receive feedback on language skills. Rather than a general technological shift, recent developments in specific AI applications, such as generative conversational chatbots (e.g., ChatGPT), speech recognition and pronunciation coaching tools (e.g., ELSA Speak, MySpeaker Rhetorich), and adaptive learning platforms (e.g., Duolingo), have introduced new affordances for speaking practice. These tools process natural language to generate context-specific responses, simulate turn-taking in dialogue, adapt difficulty levels in real time, and provide automated, fine-grained feedback on pronunciation and grammar (Adiguzel et al., 2023; Akinsemolu & Onyeaka, 2025; Almelhes, 2023). In EFL contexts,

such capabilities are operationalized to supplement limited classroom interaction, offering learners repeated opportunities for oral production, targeted corrective input, and topic personalization outside formal instruction. However, these affordances are accompanied by pedagogical and communicative constraints, including limited sociocultural awareness and the inability to replicate fully authentic human conversation. This study situates its investigation within this complex landscape, examining not only how AI supports speaking development but also how learners negotiate its limitations in their language learning journeys.

AI-powered tools such as speech recognition apps, chatbots, and intelligent conversation agents have emerged as potential solutions to these long-standing issues. These tools can provide immediate feedback, mimic real-life conversation, and offer low-pressure environments for repetitive practice, all of which are essential for speaking development (Ericsson & Johansson, 2023; Wan & Moorhouse, 2024; Zou et al., 2023). AI is no longer seen merely as a supplementary tool but is increasingly integrated into learning as a dynamic conversational partner. This shift positions AI as an interactive learning space that responds to learners' input, supports language production, and adapts to their evolving proficiency levels (Yeh, 2025). As such, AI holds significant promise in mitigating learners' communication anxiety and bridging gaps in exposure to spoken English.

Despite the growing integration of AI in EFL instruction, much of the existing inquiry has prioritized measurable outcomes or generalized attitudes toward technology (Grassini, 2023; Huang & Katz, 2025; Katsantonis & Katsantonis, 2024; Saklaki & Gardikiotis, 2024). What remains underexplored is how learners personally experience these tools—how they make sense of their engagement with AI, what motivates their continued use, and how they perceive its impact on their speaking proficiency. There is a need for deeper, qualitative insight into the subjective dimensions of learning with AI, including emotional, cognitive, and social factors that shape learners' experiences. This study seeks to fill that gap by examining how EFL learners interact with AI tools to enhance their speaking proficiency, focusing on their personal narratives and reflections. Rather than evaluating the effectiveness of specific applications or assessing measurable language gains, this research prioritizes the voices of learners themselves. Through narrative inquiry, it captures the meanings they construct around their use of AI, offering a nuanced understanding of learner engagement that goes beyond statistical data. This approach is particularly suitable for AI-assisted language learning, as it reveals how learners emotionally and cognitively engage with technology, insights that quantitative or experimental designs often overlook.

This study focuses specifically on EFL learners who utilize AI tools to enhance their speaking proficiency. It explores their self-reported experiences and the personal meanings they associate with AI's role in their language learning journey. The research is qualitative in nature, drawing on narrative accounts to gain in-depth insights rather than aiming for broad generalizations. It does not attempt to measure improvements in proficiency quantitatively but instead examines how learners perceive AI's support in their speaking development. To guide this exploration, the study is framed by the following research questions:

1. How do EFL learners describe their experiences of using AI tools to support their speaking proficiency development?
2. How do EFL learners interpret and attribute meaning to the role of AI in their speaking proficiency development?

## LITERATURE REVIEW

### Sociocultural Theory and Second Language Acquisition

Sociocultural Theory (SCT) conceptualizes human cognitive development, including second language acquisition (SLA), as a socially mediated process shaped by cultural and contextual factors (Lantolf & Xi, 2023; Poehner & Lu, 2024). Language learning occurs not in isolation but through interaction within a learner's sociocultural environment, where meaning-making is co-constructed. Central to SCT is the Zone of Proximal Development (ZPD), the space between what a learner can accomplish alone and what they can achieve with guidance from a more capable interlocutor (Kargar Behbahani & Karimpour, 2024). Mediation, whether linguistic, cultural, or technological, operates dynamically, adapting to learners' evolving needs and fostering internalization of new language forms (Pundziuvienė et al., 2023). However, scholars have noted challenges in applying SCT to digital contexts, particularly regarding whether non-human agents can fully replicate the contingent, culturally embedded nature of human mediation.

Recent work has explored AI's potential to extend SCT principles into technology-enhanced environments. AI-driven conversational agents such as ChatGPT or ELSA Speak can simulate interaction and deliver scaffolded feedback within a learner's ZPD, supporting both linguistic performance and affective engagement (Wardat & Akour, 2025). For example, Wardat and Akour (2025) reported reductions in speaking anxiety among Jordanian EFL students using AI-powered speaking tools, though these effects were moderated by tool familiarity and learner motivation. Similarly, Mohebbi (2025) found that AI speech evaluation programs provided consistent, individualized feedback on pronunciation, but offered limited cultural nuance. These findings suggest that while AI can function as a *form* of mediator, offering immediate, non-judgmental feedback and opportunities for repeated practice, it mediates differently from humans, often lacking the spontaneity, sociocultural depth, and ethical discernment that characterize human scaffolding.

Moreover, the pedagogical integration of AI in SCT-based learning environments raises important practical and ethical concerns, including unequal access to technology, potential algorithmic bias, and the implications of storing learner speech data. Recognizing both the affordances and limitations of AI within SCT allows for a more balanced view: AI should be seen not as a substitute for human mediation but as a complementary tool that, when used critically, can expand learners' opportunities for scaffolded, low-anxiety speaking practice while preserving the human dimensions of language learning.

## Input, Output, and Interaction Hypotheses

The development of speaking proficiency in a second language is strongly influenced by three foundational theories in Second Language Acquisition (SLA): the Input Hypothesis, the Output Hypothesis, and the Interaction Hypothesis. These frameworks collectively emphasize the dynamic interplay between understanding language, producing it, and engaging in meaningful communication (Roa Rocha, 2023). The Input Hypothesis highlights the importance of comprehensible input—language that is slightly above the learner’s current level of competence (Almohawes, 2024). It suggests that exposure to such input is essential for internalizing new linguistic forms. In the context of AI-assisted learning, this input can be delivered through level-adjusted responses, adaptive feedback, and contextualized prompts (Pham et al., 2023), allowing learners to encounter novel language structures in an accessible manner.

The Output Hypothesis posits that comprehension alone is not sufficient for language acquisition (Liu, 2023). Learners must be encouraged to produce language—spoken or written—so they can test hypotheses about how the language works, recognize gaps in their knowledge, and refine their linguistic resources. AI tools such as chatbots and speech coaching platforms provide continuous opportunities for spoken output, pushing learners to articulate their thoughts and self-monitor for accuracy and fluency (Hockly, 2023; Qiao & Zhao, 2023). The Interaction Hypothesis integrates the input and output processes, asserting that language learning is enhanced through interaction (Ramadan Elbaoui Shaddad & Jember, 2024). When learners engage in communicative exchanges, particularly those involving negotiation of meaning and clarification requests, they receive feedback that prompts modification and reprocessing of their language. AI-powered conversation tools simulate this interaction by providing instant, tailored feedback (Williyan et al., 2024), prompting learners to adjust their responses and refine their interlanguage system in real time.

In EFL contexts where authentic spoken interaction may be limited, these AI tools function as ever-available conversational partners (Fitriati & Williyan, 2025). They offer a safe and low-anxiety environment for experimentation, repetition, and reflection—elements often difficult to sustain in classroom settings. By supporting input, promoting output, and enabling interaction, AI enhances opportunities for oral language development in ways that traditional instruction may not consistently afford.

## Previous Studies on EFL Learners' Experiences with AI for Speaking (RQ1 Focus)

Recent years have seen a growing interest in the integration of Artificial Intelligence (AI) tools in English as a Foreign Language (EFL) learning, particularly in areas such as writing support, vocabulary learning, and pronunciation feedback (Fitriati & Williyan, 2025; Rad et al., 2023; Wen et al., 2025). Studies have explored how AI applications like automated writing evaluation systems and intelligent tutoring systems can enhance learners' accuracy and engagement by providing immediate, adaptive feedback. In speaking-focused research, AI-powered tools such as speech recognition apps, chatbots, and virtual conversation agents have been reported to offer opportunities for pronunciation training, fluency development, and anxiety reduction (Wardat & Akour, 2025; Zhang et al., 2024). These tools simulate real-life interactions and provide learners with a low-pressure environment to practice speaking skills repeatedly and independently.

Several quantitative studies have examined the impact of AI tools on language proficiency outcomes. For instance, some research has demonstrated improvements in learners' pronunciation accuracy, lexical variety, and grammatical complexity after engaging with AI-based speech platforms (Shafiee Rad & Roohani, 2024). Others have assessed learners' attitudes toward AI, highlighting positive perceptions related to personalization, accessibility, and convenience (Zhou et al., 2024). However, much of the existing literature remains focused on measurable outcomes—such as test scores, error rates, or usage frequency—and often adopts an experimental or quasi-experimental design. Additionally, learner experience is frequently addressed through pre- and post-intervention surveys, limiting the depth of insight into the subjective and emotional aspects of AI-supported speaking practice.

Despite increasing attention to AI in EFL instruction, there remains a notable lack of in-depth, qualitative exploration of learners' personal experiences with AI tools for speaking development. Existing studies often prioritize product-based outcomes and generalized learner attitudes, rather than engaging with the nuanced, lived realities of learners interacting with AI in real time. In particular, few studies have examined how learners construct meaning around these interactions, what challenges or affordances they perceive, and how their engagement with AI shapes their identity, motivation, or learning trajectory.

Furthermore, the affective and social dimensions of AI-assisted speaking—such as anxiety management, perceived agency, and learner autonomy—are rarely explored from the learners' own perspectives. This absence of rich narrative accounts limits our understanding of the role AI plays not just as a tool, but as a co-participant in the language learning process. In addition, prior research often overlooks the variability in learners' digital literacy, contextual factors, and self-directed learning practices, all of which can influence how AI is adopted and experienced in practice.

This study addresses the aforementioned gaps by adopting a narrative inquiry approach to explore how EFL learners experience and make sense of their interactions with AI tools in speaking development. Unlike prior research that emphasizes proficiency gains or general attitudes, this study prioritizes learners' voices, capturing the emotional, cognitive, and social dimensions of their engagement with AI. By eliciting in-depth narratives, the research uncovers the unique pathways through which learners interpret the role of AI in their language learning journey, including the affordances, limitations, and evolving perceptions that shape their usage.

The novelty of this study lies in its learner-centered, meaning-making orientation. It positions AI not merely as a technological tool but as part of the learners' lived experiences, mediating their speaking practice in dynamic and personally significant ways. The findings contribute to a deeper understanding of AI's role in fostering learner agency, motivation, and reflective practice—insights that are essential for developing more responsive, human-centered approaches to technology integration in EFL speaking instruction. Through this lens, the study offers original contributions to the fields of applied linguistics, digital pedagogy, and language learner psychology.

## METHODS

### Research Design

This study adopted a qualitative research paradigm, grounded in an interpretivist-constructivist worldview (Razali & Jamil, 2023). This philosophical stance aligns closely with the study's central aim: to explore how EFL learners experience and interpret their interactions with AI tools in developing speaking proficiency. Rather than seeking objective truths or cause-and-effect relationships, the interpretivist paradigm prioritizes understanding human experiences from the participants' perspectives (Watson, 2024). It recognizes that meaning is context-dependent and that behaviours, thoughts, and emotions can only be fully understood within the cultural, social, and historical environments in which they occur. Constructivism complements this stance by asserting that knowledge is not passively received but actively constructed by individuals (Do et al., 2023). Learners make sense of their experiences through internal processes shaped by language, prior knowledge, and interaction. As such, this study acknowledges that each participant may construct different interpretations of their engagement with AI, shaped by their unique linguistic histories, motivations, and emotional landscapes.

In line with this philosophical orientation, the research employed narrative inquiry as its primary methodological approach. Narrative inquiry focuses on personal storytelling as a means of meaning-making, offering a way to explore how individuals frame, interpret, and communicate their experiences (Creswell & Poth, 2018). It values the richness and subjectivity of individual accounts, even when such stories are fragmented or non-linear. This approach allows researchers to capture not just what participants do, but how they *feel* about what they do—and why.

Narrative inquiry is particularly well-suited to this study's research questions, which ask how learners describe their experiences and what meanings they construct about AI in their speaking practice. These questions inherently demand an exploration of subjective realities, and narrative inquiry provides the tools to honour and explore those realities in depth. The flexible, participant-centered nature of this approach also allows the research to evolve as new insights emerge from the learners' narratives, ensuring that the study remains responsive to their lived experiences. Ultimately, the use of an interpretivist-constructivist paradigm and narrative inquiry design ensures that the findings reflect the participants' own voices and meaning systems. This methodology moves beyond surface-level observation and offers a nuanced, emotionally resonant understanding of how EFL learners navigate the challenges and opportunities of AI-assisted speaking development.

### Participants

The population for this study consisted of English as a Foreign Language (EFL) learners who actively used AI tools to enhance their speaking proficiency. A purposeful sampling technique was employed to select participants who could provide rich, in-depth narrative accounts relevant to the research questions (Fraenkel et al., 2023). Criteria for selection included: (1) current enrollment in an EFL program or self-study, (2) consistent use of at least one AI tool for English speaking practice for a minimum of six months, and (3) willingness to share their personal experiences and reflections. The sample size for narrative inquiry is typically small, focusing on depth over breadth. This study aimed for thematic saturation, where no new thematic information emerged from additional participants (Dogan et al., 2019<sup>7</sup>). Based on similar qualitative studies, a sample of 12

EFL learners was deemed appropriate to gather comprehensive narrative data while maintaining the in-depth focus characteristic of narrative inquiry. Participants were diverse in terms of age (ranging from 18 to 25, predominantly university students), proficiency levels (intermediate to advanced, as self-assessed and confirmed by a brief English proficiency questionnaire), and specific AI tools utilized. The AI tools included popular applications such as ChatGPT, Duolingo, and MySpeaker Rhetorich, among others. Detailed demographic profiles were collected from each participant during the initial interview phase, ensuring a varied representation of experiences.

### Data Collection methods

To capture the lived experiences and meaning-making processes of EFL learners using AI tools for speaking development, this study employed two primary data collection methods: semi-structured interviews and reflective journals. The interviews served as the main data source, offering a flexible yet focused format that encouraged participants to share in-depth stories about their interactions with AI. Each participant took part in two sessions: an initial interview to explore general experiences and a follow-up to deepen emerging themes and clarify prior responses. Interviews were conducted online, audio-recorded with consent, and transcribed verbatim for analysis. Complementing the interviews, reflective journals allowed participants to document their ongoing thoughts, challenges, and insights over a four-week period. Journal prompts were provided to guide reflection on emotional responses, perceived progress, and the evolving role of AI in their speaking practice. This method captured immediate and personal perspectives that might be overlooked or forgotten in interview settings.

Ethical procedures were strictly followed. Informed consent was obtained from all participants, and anonymity was ensured through pseudonyms and secure data storage. Participants were informed of their right to withdraw at any time, and efforts were made to create a respectful, comfortable environment throughout the study. The combination of interviews and reflective journals provided both depth and continuity. While interviews offered narrative breadth and conversational nuance, journals added a longitudinal perspective, capturing how learners' experiences and interpretations shifted over time. This multi-modal approach aligned with the narrative inquiry framework, allowing for a more holistic and authentic representation of learner engagement with AI in speaking development.

### Data Analysis

The narrative data collected from semi-structured interviews and reflective journals were analyzed using thematic analysis, guided by Braun and Clarke's (2021) six-step framework. The analysis followed an inductive and iterative process, allowing patterns and meanings to emerge naturally from the data rather than from predetermined theoretical categories. All stages of analysis were conducted through a reflective and systematic approach, supported by NVivo 12 software to organize, code, and manage data efficiently.

This analytical procedure aimed to capture not only what participants reported but also how they made sense of their experiences with AI tools in developing speaking proficiency. Each step was carefully aligned with trustworthiness criteria to ensure that the findings were credible, dependable, confirmable, and transferable.

**Table 1.**

Overview of Thematic Analysis Procedures and Rigor Measures

Analytical Step	Description of Process	Rigor and Trustworthiness Strategies
<b>1. Familiarization</b>	The first researcher immersed herself in the data through repeated reading of interview transcripts and reflective journals, accompanied by active listening to audio recordings and preliminary note-taking.	<i>Prolonged engagement</i> with data ensured depth of understanding and contextual awareness.
<b>2. Initial Coding</b>	Open coding was performed manually, line by line, to identify meaningful units related to learners' experiences and perceptions of AI-assisted speaking practice. A <i>comprehensive codebook</i> with definitions and representative excerpts was created.	<i>Dependability</i> achieved through systematic coding procedures and the use of NVivo for data traceability.
<b>3. Inter-Coder Validation</b>	A second qualitative researcher independently coded 25% of the dataset using the same codebook. Inter-coder agreement reached <b>88%</b> , and discrepancies were resolved through collaborative discussion until full consensus was achieved.	<i>Credibility</i> and <i>dependability</i> strengthened through peer debriefing and intercoder verification.
<b>4. Theme Generation and Refinement</b>	Related codes were grouped into broader categories, which were then organized into potential themes. Visual mapping was used to explore conceptual relationships among categories.	<i>Analytic transparency</i> ensured by maintaining detailed documentation of code grouping and refinement.
<b>5. Defining and Naming Themes</b>	Each finalized theme was defined according to its conceptual essence and supported with illustrative participant quotations. Reflexive memos were used throughout to record analytic decisions and potential biases.	<i>Confirmability</i> reinforced through researcher reflexivity and peer consultation.
<b>6. Validation and Writing Up</b>	Preliminary themes were shared with five participants for member	<i>Credibility</i> and <i>transferability</i> enhanced

checking, and their feedback was through participant integrated into the final structure. validation and thick Themes were then woven into a description. narrative supported by data excerpts.

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*Note. Adapted from Braun and Clarke (2021)*

This systematic process ensured that the emerging themes were deeply grounded in participants' lived experiences and that the interpretive decisions were both transparent and reproducible. Inter-coder validation and member checking enhanced the trustworthiness of the analysis by confirming the accuracy and consistency of theme development. In addition, reflexive memoing was employed throughout the analytic process, enabling the researcher to remain aware of personal assumptions and to document critical reflections during theme construction.

Multiple strategies were adopted to ensure rigor across the analysis. Credibility was established through prolonged engagement with the data, member checking, and peer debriefing with a second qualitative researcher. Dependability was achieved through inter-coder validation, maintenance of an audit trail, and systematic documentation of analytic decisions. Confirmability was supported by reflexive journaling and triangulation of interview and journal data, ensuring that findings remained grounded in participants' narratives rather than researcher bias. Finally, transferability was ensured through thick, contextualized descriptions of participants and learning environments, enabling readers to assess the applicability of the findings to similar EFL contexts. In addition to triangulation between interviews and journals, member checking was carried out with five participants to confirm the accuracy of interpretations. Expert consultation was also conducted with two qualitative researchers in applied linguistics to review the coding framework and ensure analytical consistency. Their feedback was integrated into the final analysis to strengthen credibility and trustworthiness.

## FINDINGS

### Findings for Research Question 1: EFL Learners' Experiences with AI Tools

This section presents the results of a comprehensive thematic analysis exploring EFL learners' experiences with AI tools in developing their speaking proficiency. Drawing on rich narrative data from interviews and reflective journals, the analysis highlights how learners engaged with various types of AI technology and the meanings they constructed around their use. To contextualize the findings, the following table outlines the key AI tools reported by participants, the perceived benefits associated with each, and selected supporting quotes that illustrate their impact on speaking development.

**Table 2**

Key AI Tools Utilized and Perceived Benefits for Speaking Proficiency

AI Tool Type	Specific AI Tool Examples	Perceived Benefits for Speaking	Supporting Participant Quotes
Chatbot	ChatGPT, Replika	Reduced Anxiety, Conversational Practice,	"I don't feel nervous like I do with my classmates or teacher. It doesn't

Speech Coach App	ELSA Speak, MySpeaker Rhetorich	Grammar Feedback, Personalized Learning Pronunciation Correction, Immediate Feedback, Fluency Practice	judge me." (Participant A) "The speech coach app tells me exactly which words I mispronounced, even shows me the sound waves." (Participant B)
Language Learning Platform	Duolingo, Babbel	Personalized Learning, Adaptive Input, Vocabulary Integration	"Duolingo always gives me sentences that are just a little bit harder than what I know. It pushes me." (Participant C)
Generative AI (for content creation)	ChatGPT	Self-directed Learning, Topic Exploration, Script Generation	"I can choose topics I'm interested in for conversation practice with ChatGPT. This makes practice much more enjoyable." (Participant G)
General AI-powered apps	Various mobile apps	Private Practice, Confidence Building	"I can practice dialogues privately. It's like a secret practice zone. My confidence grew." (Participant D)

As shown in the table, learners interacted with a diverse range of AI tools—ranging from chatbots and pronunciation apps to adaptive learning platforms and generative AI technologies. These tools supported different aspects of speaking development, such as reducing anxiety, offering immediate feedback, providing adaptive content, and creating opportunities for personalized and private practice. The integration of AI into learners' routines appeared to enhance both their linguistic performance and emotional readiness for speaking in English. Building on these insights, the analysis revealed five key themes that capture the broader patterns in learners' experiences. These themes offer a deeper understanding of the emotional, cognitive, and social dimensions of AI-supported speaking practice, and are discussed in detail in the following sections.

#### *Theme 1: AI as a Non-Threatening Practice Partner*

A recurring theme in participants' narratives was the perception of AI tools—especially chatbots and speech recognition apps—as safe, non-threatening partners for speaking practice. Learners described these tools as creating a low-stakes environment that reduced anxiety related to judgment, mistakes, or peer evaluation, encouraging greater willingness to speak.

One participant shared, *"When I speak with the AI, I don't feel nervous like I do with my classmates or teacher. It doesn't judge me, and I can repeat myself as many times as I need without feeling embarrassed."* (Participant A, Interview). The absence of social pressure allowed learners to experiment freely and engage in repeated practice without fear. Similarly, another participant noted, *"With the AI app, I can practice dialogues privately. It's like a secret practice zone. My confidence grew because of this."* (Participant D, Reflective Journal), highlighting the role of AI in offering a private, emotionally secure space for gradual confidence building.

These reflections show that AI served not just as a language tool, but as a space of emotional refuge that promoted risk-taking, persistence, and fluency. Its neutrality and availability offered a psychological comfort zone often lacking in traditional classroom settings.

### *Theme 2: Precision and Immediacy of AI Feedback*

Another prominent theme was learners' appreciation for the immediate and precise feedback provided by AI tools. Participants highlighted how AI offered clear, objective input on pronunciation, grammar, and fluency—often in contrast to the vagueness or delay of human feedback. This instant, actionable guidance gave learners greater control over their progress and supported real-time correction.

One participant noted, *"The speech coach app tells me exactly which words I mispronounced, even shows me the sound waves. This is so much clearer than a teacher just saying 'try again'."* (Participant B, Interview). This detailed feedback helped learners target specific issues and build phonological awareness. Another shared, *"The chatbot immediately corrected my grammar and explained why. It's like an instant grammar checker for speaking."* (Participant F, Reflective Journal), emphasizing how AI supported quick identification of language gaps.

These reflections reveal how the precision and speed of AI feedback enhanced learner autonomy and motivation. With consistent, unbiased input, learners felt empowered to self-monitor, adjust, and improve at their own pace—making AI a vital tool in their speaking development.

### *Theme 3: Personalized and Adaptive Learning Paths*

Participants highlighted the value of AI tools that offered personalized and adaptive learning experiences. They appreciated how these tools adjusted to their proficiency level, pace, and interests, creating a more engaging and learner-centered environment compared to traditional classroom instruction.

One learner shared, *"Duolingo always gives me sentences that are just a little bit harder than what I know... I feel like I'm always learning something new but it's not overwhelming."* (Participant C, Interview), illustrating how adaptive tasks sustained motivation without causing overload. Another noted, *"I can choose topics I'm interested in for conversation practice with ChatGPT... This makes practice much more enjoyable and relevant."* (Participant G, Reflective Journal), emphasizing the motivational impact of topic relevance and choice.

These reflections show that AI's personalization supported autonomy, sustained interest, and more frequent speaking practice. Learners viewed these tools not just as instructional

aids, but as responsive companions that evolved with their needs—transforming language learning into a more active and meaningful process.

#### *Theme 4: Challenges with Cultural Nuance and Naturalness*

While learners generally appreciated AI tools for language development, many expressed concerns about their inability to replicate natural, culturally nuanced conversation. Although AI offered grammatically correct responses, participants noted that it often felt robotic and lacked the subtleties needed for authentic interaction.

One learner observed, *"Sometimes the chatbot's responses feel a bit robotic... It doesn't understand jokes or subtle cultural references."* (Participant E, Interview), pointing to AI's struggle with sociocultural and contextual cues. Another remarked, *"I tried to have a debate with the AI... It didn't challenge me to think critically or argue persuasively like a human would."* (Participant H, Reflective Journal), highlighting the lack of depth in AI-led discussions.

These reflections suggest that while AI is useful for foundational skills, it falls short in fostering pragmatic competence and higher-order communication. Learners cautioned against over-reliance, emphasizing the importance of complementing AI with real human interaction to achieve well-rounded speaking proficiency.

#### *Theme 5: Contrasting or Neutral Experiences with AI Feedback*

While most participants viewed AI tools positively, several expressed mixed or neutral experiences, revealing the complex and sometimes frustrating nature of AI-assisted speaking practice. Some found the feedback overly mechanical or excessive, interrupting the natural flow of conversation: *"Sometimes the AI corrects me too much—almost every small thing. I start to focus on fixing mistakes instead of just talking naturally."* (Participant Q, Reflective Journal). Others noted that AI responses lacked contextual depth, particularly when discussing cultural or emotional topics: *"When I talk about cultural or emotional subjects, the AI just gives simple replies. It feels like it doesn't really understand what I mean."* (Participant R, Interview). A few also reported boredom and disengagement after repeated interactions due to limited variety. These contrasting views suggest that AI's effectiveness depends on learners' expectations and use patterns, underscoring the need to balance automated feedback with authentic, human interaction.

### **Findings for Research Question 2: Meanings Constructed about AI's Role**

To address the second research question, participants' narratives were analyzed to identify recurring interpretations of how AI shaped their learning experiences. These constructed meanings reveal how learners perceive AI not only as a functional tool, but also as an agent within their broader language learning ecology. The following table summarizes the key roles learners attributed to AI, along with corresponding theoretical underpinnings and illustrative quotes that capture these perceptions.

**Table 3**  
Meanings Constructed by EFL Learners about AI's Role

Constructed Meaning/Role	Description of Meaning	Theoretical Connection	Supporting Participant Quotes
Patient, Non-Judgmental Companion	AI provides a safe, low-pressure environment for practice, free from social judgment.	Sociocultural Theory (Affective Scaffolding), Affective Filter Hypothesis	"The AI never gets tired of me making mistakes. It doesn't sigh or look impatient." (Participant I)
Catalyst for Self-Directed Learning	AI empowers learners to take control of their learning, set goals, and manage their progress independently.	Self-Determination Theory (Autonomy), Constructivism	"I feel like I'm the boss of my own learning." (Participant K)
Supplement, Not a Substitute, for Human Interaction	AI is valuable for specific practice (e.g., grammar, pronunciation) but cannot replace the depth of human interaction for cultural and emotional nuance.	Interaction Hypothesis (Limitations), Sociocultural Theory (Relatedness)	"For real communication, for understanding emotions and culture, I still need to talk to people. AI is like a warm-up." (Participant M)
Gateway to Accessibility and Unlimited Practice	AI provides constant, convenient access to language practice, overcoming geographical and time constraints.	Affordance Theory (Ubiquity), Output Hypothesis (Pushed Output)	"Before AI, I had no one to practice speaking with. Now, I can practice anytime, anywhere." (Participant O)

As reflected in the table, learners viewed AI through multiple lenses—as a supportive and non-judgmental companion, a driver of self-directed learning, an accessible resource, and a useful supplement to, but not a replacement for, human interaction. These meanings highlight the complex interplay between cognitive, emotional, and social factors in AI-assisted learning. Importantly, learners positioned AI as a flexible and responsive presence in their language development, yet still acknowledged its limitations in fostering authentic human communication. These layered interpretations provide insight into how learners make sense of their evolving relationships with technology in language learning contexts.

### *Theme 1: AI as a "Patient, Non-Judgmental Companion"*

Participants consistently described AI as a supportive and emotionally safe partner in speaking practice. Unlike interactions with peers or teachers, where fear of judgment could inhibit participation, AI was seen as endlessly patient and free of criticism. This perception reduced anxiety and encouraged learners to take risks and speak more freely.

One learner noted, *"The AI never gets tired of me making mistakes. It doesn't sigh or look impatient. It just waits for me to try again."* (Participant I, Interview), illustrating how the lack of social pressure created a comfortable space for repeated practice. Another shared, *"My friends sometimes laugh if I say something wrong, but the AI just corrects me politely."* (Participant J, Reflective Journal), emphasizing how AI enabled error-making without embarrassment.

These experiences show that learners valued AI not just for its instructional support but for the emotional safety it offered. This non-judgmental presence played a key role in promoting confidence, persistence, and greater engagement in speaking practice.

### *Theme 2: AI as a "Catalyst for Self-Directed Learning"*

Learners frequently described AI as a tool that fostered autonomy and self-regulation in their language learning journey. Rather than relying solely on teacher-directed activities, they began to take initiative in creating their own practice opportunities and setting personalized learning goals.

One participant shared, *"Before AI, I always waited for my teacher to give me speaking assignments. Now, I can use ChatGPT to create my own speaking prompts, practice, and get feedback. I feel like I'm the boss of my own learning."* (Participant K, Interview). This quote reflects a shift toward greater learner agency, where AI is seen as an enabler of independent, self-driven practice. Another learner noted, *"I used to just practice what was in the textbook. With AI, I can explore new vocabulary and phrases related to my hobbies and practice using them immediately."* (Participant L, Reflective Journal). Here, AI's flexibility allowed for more personally relevant and engaging practice, enhancing intrinsic motivation and making learning feel more meaningful.

Together, these reflections illustrate how learners construct AI as a dynamic learning partner that empowers them to take ownership of their progress, personalize their practice, and develop greater confidence as autonomous language users.

### *Theme 3: I as a "Supplement, Not a Substitute, for Human Interaction"*

Although learners acknowledged the many benefits of AI tools in speaking practice, they clearly articulated that AI could not replace the depth and complexity of real human interaction. Instead, they positioned AI as a useful supplement—effective for foundational skills, but insufficient for developing full communicative competence.

One participant remarked, *"AI is great for practicing pronunciation and basic conversations, but for real communication, for understanding emotions and culture, I still need to talk to people. AI is like a warm-up."* (Participant M, Interview). This reflection underscores a common view that AI offers mechanical support but lacks the emotional nuance and cultural awareness embedded in authentic human dialogue.

Another learner described AI as a confidence-building tool that serves as preparation for real-life communication: *"I think AI helps me build confidence so I can talk better with humans. It's a stepping stone. If I only talk to AI, I might not learn how to deal with real-life situations."* (Participant N, Reflective Journal). This view frames AI as a transitional resource—valuable for practice and rehearsal, but ultimately meant to support, not replace, social interaction.

These perspectives highlight learners' practical understanding of AI's strengths and limitations. While AI is seen as a valuable partner in language learning, its role is framed as complementary to, rather than a replacement for, human communication.

#### *Theme 4: AI as a "Gateway to Accessibility and Unlimited Practice"*

Learners often constructed AI as a highly accessible and ever-available partner that significantly expanded their opportunities for speaking practice. For many, especially those in remote or non-English-speaking environments, AI tools removed longstanding barriers to language learning by offering constant, on-demand support.

One participant expressed this clearly: *"I live in a place where there are no native English speakers. Before AI, I had no one to practice speaking with. Now, I can practice anytime, anywhere, with my phone. It's a game-changer for me."* (Participant O, Interview). This account illustrates how AI helped bridge the gap for learners lacking access to English-speaking communities or instructors. The flexibility and portability of AI made practice more feasible, enabling consistent engagement regardless of location or time constraints.

Another learner highlighted the benefit of AI's unlimited responsiveness: *"I used to worry about bothering my teacher with too many questions about pronunciation. Now, I just ask the AI. It never gets tired. It's like having an unlimited tutor."* (Participant P, Reflective Journal). Here, AI was seen not only as accessible but also as endlessly patient—qualities that encouraged more frequent interaction and reduced the hesitation learners might feel when seeking help from human teachers.

Together, these reflections portray AI as a powerful tool for increasing the volume and frequency of practice. By offering consistent access and eliminating social or logistical constraints, AI enabled learners to take full advantage of every opportunity to speak—thus accelerating their language development in ways that traditional settings may not always allow.

## **DISCUSSION**

The narrative accounts of EFL learners reveal that AI tools serve as multifaceted agents in the process of speaking development. Learners overwhelmingly described AI as supportive, accessible, and confidence-building (Eager & Brunton, 2023). These perceptions were driven by key affordances: AI's emotionally neutral and non-judgmental feedback, its capacity to provide immediate and precise corrections, and its personalized responsiveness to learners' levels and interests. These experiences shaped the meanings participants assigned to AI—as a "patient, non-judgmental companion," a "catalyst for self-directed learning," and a "gateway to accessibility and unlimited practice." Importantly, learners also expressed a critical awareness of AI's limitations,

particularly in relation to sociocultural nuance, spontaneity, and real-time human dialogue (Brandt & Hazel, 2025). AI was thus positioned not as a replacement for human communication, but as a useful supplement—a stepping stone toward more complex, authentic interaction.

These findings reinforce a growing body of research that affirms the value of AI tools in second language learning, particularly in fostering speaking proficiency through increased engagement and reduced anxiety. However, this study contributes unique insight by emphasizing the affective and relational dimensions of AI interaction, and by grounding learners' experiences in sociocultural and interactionist perspectives.

From a Sociocultural Theory standpoint, AI tools function as affective scaffolds that support learners within their Zone of Proximal Development (ZPD). Learners consistently reported that AI created a psychologically safe space, allowing them to speak more freely and take risks without fear of negative evaluation (Hadfi et al., 2023). This extends traditional notions of mediation, suggesting that emotional support—typically provided by human interlocutors—can, in certain contexts, be replicated by AI. In doing so, the role of the "more capable other" is reimagined: not as a human facilitator, but as an emotionally neutral, tireless digital companion. These insights push the boundaries of SCT by acknowledging the evolving function of non-human agents in learner development—not simply as cognitive scaffolds, but as providers of emotional and affective support that enable deeper learner engagement with linguistic challenges.

The findings also align strongly with the Input, Output, and Interaction Hypotheses, particularly in AI's role in facilitating "pushed output" and interactional modifications. Learners described receiving continuous, comprehensible input from AI and being prompted to produce output in response to real-time feedback (Bonner et al., 2023). This immediate corrective input functioned as negative evidence, helping them notice linguistic gaps and restructure their interlanguage system. Notably, learners did not merely consume input passively; rather, they engaged in a feedback loop that allowed for frequent rehearsal, error correction, and metalinguistic reflection (Fathi et al., 2024). In contexts where opportunities for authentic output are limited—such as in EFL settings with few English-speaking interlocutors—AI tools effectively filled the gap, providing on-demand interaction and an iterative cycle of spoken language production and refinement.

However, the findings also raise critical concerns. While AI supported learners' accuracy, fluency, and confidence, it lacked the sociopragmatic competence needed for learners to fully develop authentic communication skills. Participants expressed that AI tools often failed to capture humor, irony, politeness strategies, or cultural references—elements that are vital for true communicative competence (Ivković, 2024). This limitation becomes especially salient when learners reach higher proficiency levels, where the goal shifts from form-focused practice to nuanced, context-sensitive interaction. Without human mediation, learners risk becoming proficient in producing technically correct speech that nonetheless lacks pragmatic appropriateness.

Thus, the study reveals a nuanced portrait of AI's pedagogical role: highly effective in lowering affective filters and enhancing spoken accuracy, yet inherently constrained in fostering the deeper interpersonal and intercultural dimensions of language use. Learners

themselves recognized this duality and advocated for a balanced approach—leveraging AI for foundational skills, while relying on human interaction for advanced communicative development (Qassrawi & Al Karasneh, 2025). This suggests the emergence of a “hybrid communicative competence”, where AI and human interactions are not competing modalities, but complementary components of a well-rounded language learning ecosystem.

The findings hold important implications for language pedagogy and curriculum development in EFL contexts. Teachers should view AI not as a disruptive force, but as a valuable pedagogical ally (Williyan et al., 2024)—particularly for providing low-pressure, personalized speaking practice beyond the constraints of the classroom. Used strategically, AI can help learners rehearse language, receive feedback, and build fluency before engaging in more socially demanding tasks in class.

Educators’ roles will need to evolve to accommodate this shift. Rather than solely dispensing content, teachers must become AI-literate facilitators, helping learners interpret feedback, integrate AI practice into broader learning goals, and develop communicative strategies that go beyond what AI can offer (Kong & Yang, 2024). Human interaction remains essential—particularly for modeling sociopragmatic norms, interpreting ambiguity, and cultivating intercultural sensitivity. Classroom time should therefore prioritize those interactional skills that AI cannot replicate, creating space for discussion, negotiation of meaning, and emotional exchange.

Curriculum development should reflect this dual emphasis. Blended instructional models that combine AI-driven practice with communicative, task-based classroom work can ensure that learners develop both accuracy and interpersonal competence. In addition, explicit instruction in AI literacy—including critical awareness of AI’s capabilities, limitations, and ethical implications—is necessary to prepare learners to use these tools responsibly and effectively. At the policy level, investments in digital infrastructure and teacher training are vital. Educators must be equipped not only with access to technology but with the pedagogical frameworks to use it meaningfully. Equitable access to AI tools for learners from diverse backgrounds should also be prioritized, ensuring that the benefits of AI-enhanced instruction are not limited to well-resourced contexts.

Ultimately, the findings underscore the importance of intentional integration of AI in language education—where the goal is not to replace the teacher, but to expand learners’ access to meaningful, varied, and emotionally supportive opportunities for language use (Al-Smadi et al., 2024). In this evolving landscape, teachers retain their central role as cultural mediators and human connectors, ensuring that technology serves to *enhance* the human dimensions of language learning, rather than diminish them.

## CONCLUSION

This study explored EFL learners’ experiences and meaning-making processes in using AI tools for speaking development through a narrative inquiry approach. The findings revealed that learners viewed AI as a supportive, patient, and accessible speaking partner. Key features such as immediate feedback, personalization, and emotional safety were seen as instrumental in reducing anxiety, fostering autonomy, and enhancing engagement. By centering learners’ voices, the study contributes a deeper understanding of how AI

integrates into personal language learning journeys—beyond the surface-level gains typically measured in quantitative studies.

The study offers significant theoretical and pedagogical implications. It extends sociocultural and interactionist perspectives by showing how AI can scaffold affective engagement and facilitate "pushed output" in speaking tasks. These insights call for a more human-centered approach to AI integration—one that acknowledges learners' emotional and social needs, not just their linguistic proficiency. However, limitations such as the context-specific nature of the study, reliance on self-reported data, and the potential influence of novelty effects should be considered when interpreting the findings. The absence of teacher perspectives and long-term data further suggests the need for more comprehensive, multi-stakeholder inquiry.

Future research should examine the sustained impact of AI through longitudinal and mixed-methods designs, focusing on how learner perceptions and speaking proficiency evolve over time. Expanding research to include diverse EFL contexts, teacher roles, and the development of sociopragmatic competence will help refine AI tools and instructional practices. Additionally, integrating AI literacy into EFL curricula will be essential to prepare learners for critically navigating AI-enhanced language learning environments. As AI continues to shape language education, a balanced and reflective approach is needed—one that harnesses its benefits while addressing its limitations.

## REFERENCES

- Adiguzel, T., Kaya, M. H., & Cansu, F. K. (2023). Revolutionizing education with AI: Exploring the transformative potential of ChatGPT. *Contemporary Educational Technology, 15*(3), ep429. <https://doi.org/10.30935/cedtech/13152>
- Akinsemolu, A. A., & Onyeaka, H. (2025). The role of artificial intelligence in transforming language learning: Opportunities and ethical considerations. *Journal of Language and Education, 11*(1), 148–152. <https://doi.org/10.17323/jle.2025.22118>
- Al-Smadi, O. A., Rashid, R. A., Saad, H., Zrekat, Y. H., Kamal, S. S. L. A., & Uktamovich, G. I. (2024). Artificial intelligence for English language learning and teaching: Advancing sustainable development goals. *Journal of Language Teaching and Research, 15*(6), 1835–1844. <https://doi.org/10.17507/jltr.1506.09>
- Almelhes, S. A. (2023). A review of artificial intelligence adoption in second-language learning. *Theory and Practice in Language Studies, 13*(5), 1259–1269. <https://doi.org/10.17507/tpls.1305.21>
- Almohawes, M. (2024). Second language acquisition theories and how they contribute to language learning. *World Journal of English Language, 14*(3), 181. <https://doi.org/10.5430/wjel.v14n3p181>
- Bonner, E., Lege, R., & Frazier, E. (2023). Large language model-based artificial intelligence in the language classroom: Practical ideas for teaching. *Teaching English With Technology, 2023*(1). <https://doi.org/10.56297/BKAM1691/WIEO1749>

- Brandt, A., & Hazel, S. (2025). Towards interculturally adaptive conversational AI. *Applied Linguistics Review*, 16(2), 775–786. <https://doi.org/10.1515/applirev-2024-0187>
- Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. In *Sage Publications* (p. 320). <https://books.google.se/books?id=Hr11DwAAQBAJ&hl=sv>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches*. SAGE Publications.
- Do, H.-N., Do, B. N., & Nguyen, M. H. (2023). How do constructivism learning environments generate better motivation and learning strategies? The Design Science Approach. *Heliyon*, 9(12), e22862. <https://doi.org/10.1016/j.heliyon.2023.e22862>
- Eager, B., & Brunton, R. (2023). Prompting higher education towards AI-augmented teaching and learning practice. *Journal of University Teaching and Learning Practice*, 20(5). <https://doi.org/10.53761/1.20.5.02>
- Ericsson, E., & Johansson, S. (2023). English speaking practice with conversational AI: Lower secondary students' educational experiences over time. *Computers and Education: Artificial Intelligence*, 5. <https://doi.org/10.1016/j.caeai.2023.100164>
- Fathi, J., Rahimi, M., & Derakhshan, A. (2024). Improving EFL learners' speaking skills and willingness to communicate via artificial intelligence-mediated interactions. *System*, 121(January), 103254. <https://doi.org/10.1016/j.system.2024.103254>
- Fitriati, S. W., & Williyani, A. (2025). AI-enhanced self-regulated learning: EFL learners' prioritization and utilization in presentation skills development. *Journal of Pedagogical Research*, 9(2), 22–37. <https://doi.org/https://doi.org/10.33902/JPR.202530647>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2023). *How to design and evaluate research in education*. McGraw-Hill Higher Education.
- Grassini, S. (2023). Development and validation of the AI attitude scale (AIAS-4): A brief measure of general attitude toward artificial intelligence. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1191628>
- Hadfi, R., Okuhara, S., Haqbeen, J., Sahab, S., Ohnuma, S., & Ito, T. (2023). Conversational agents enhance women's contribution in online debates. *Scientific Reports*, 13(1), 14534. <https://doi.org/10.1038/s41598-023-41703-3>
- Hockly, N. (2023). Artificial intelligence in English language teaching: The good, the bad and the ugly. *RELC Journal*, 54(2), 445–451. <https://doi.org/10.1177/00336882231168504>
- Huang, D., & Katz, J. E. (2025). GenAI learning for game design: Both prior self-transcendent pursuit and material desire contribute to a positive experience. *Big Data and Cognitive Computing*, 9(4), 78. <https://doi.org/10.3390/bdcc9040078>

- Ivković, G. (2024). Many faces of a chatbot: the use of positive and negative politeness strategies in argumentative communication with a chatbot. *Folia Linguistica et Litteraria*, 49. <https://doi.org/10.31902/fl.49.2024.9>
- Kargar Behbahani, H., & Karimpour, S. (2024). The impact of computerized dynamic assessment on the explicit and implicit knowledge of grammar. *Computer Assisted Language Learning*, 1–22. <https://doi.org/10.1080/09588221.2024.2315504>
- Katsantonis, A., & Katsantonis, I. G. (2024). University students' attitudes toward artificial intelligence: An exploratory study of the cognitive, emotional, and behavioural dimensions of AI attitudes. *Education Sciences*, 14(9), 988. <https://doi.org/10.3390/educsci14090988>
- Kong, S.-C., & Yang, Y. (2024). A human-centered learning and teaching framework using generative artificial intelligence for self-regulated learning development through domain knowledge learning in k–12 settings. *IEEE Transactions on Learning Technologies*, 17, 1562–1573. <https://doi.org/10.1109/TLT.2024.3392830>
- Lantolf, J. P., & Xi, J. (2023). Digital language learning: A sociocultural theory perspective. *TESOL Quarterly*, 57(2), 702–715. <https://doi.org/10.1002/tesq.3218>
- Liu, W. (2023). The theory of second language development for international students. *Journal for Multicultural Education*, 17(3), 367–378. <https://doi.org/10.1108/JME-08-2022-0106>
- Mohebbi, A. (2025). Enabling learner independence and self-regulation in language education using AI tools: A systematic review. *Cogent Education*, 12(1). <https://doi.org/10.1080/2331186X.2024.2433814>
- Pham, T., Nguyen, T. B., Ha, S., & Nguyen Ngoc, N. T. (2023). Digital transformation in engineering education: Exploring the potential of AI-assisted learning. *Australasian Journal of Educational Technology*, 39(5), 1–19. <https://doi.org/10.14742/ajet.8825>
- Poehner, M. E., & Lu, X. (2024). Sociocultural theory and corpus-based English language teaching. *TESOL Quarterly*, 58(3), 1256–1263. <https://doi.org/10.1002/tesq.3282>
- Pundziuvienė, D., Meškauskienė, A., Ringailienė, T., & Matulionienė, J. (2023). The role of linguistic and cultural mediation in learning the host country's language. *Sustainable Multilingualism*, 23(1), 121–142. <https://doi.org/10.2478/sm-2023-0015>
- Qassrawi, R., & Al Karasneh, S. M. (2025). Redefinition of human-centric skills in language education in the AI-driven era. *Studies in English Language and Education*, 12(1), 1–19. <https://doi.org/10.24815/siele.v12i1.43082>
- Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: Illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1255594>

- Rad, H. S., Alipour, R., & Jafarpour, A. (2023). Using artificial intelligence to foster students' writing feedback literacy, engagement, and outcome: A case of Wordtune application. *Interactive Learning Environments*, 1–21. <https://doi.org/10.1080/10494820.2023.2208170>
- Ramadan Elbaoui Shaddad, A., & Jember, B. (2024). A step toward effective language learning: An insight into the impacts of feedback-supported tasks and peer-work activities on learners' engagement, self-esteem, and language growth. *Asian-Pacific Journal of Second and Foreign Language Education*, 9(1), 39. <https://doi.org/10.1186/s40862-024-00261-5>
- Razali, M. Z. M., & Jamil, R. (2023). Sustainability learning in organizations: Integrated model of learning approaches and contextual factors. *Sage Open*, 13(1). <https://doi.org/10.1177/21582440231155390>
- Roa Rocha, J. C. (2023). Examining three crucial second language acquisition theories and their relationship in the acquisition process by a six-year-old Nicaraguan girl. *Mextesol Journal*, 46(4), 1–12. <https://doi.org/10.61871/mj.v46n4-18>
- Saklaki, A., & Gardikiotis, A. (2024). Exploring Greek students' attitudes toward artificial intelligence: Relationships with AI ethics, media, and digital literacy. *Societies*, 14(12), 248. <https://doi.org/10.3390/soc14120248>
- Shafiee Rad, H., & Roohani, A. (2024). Fostering L2 Learners' Pronunciation and Motivation via Affordances of Artificial Intelligence. *Computers in the Schools*, 0(0), 1–22. <https://doi.org/10.1080/07380569.2024.2330427>
- Wan, Y., & Moorhouse, B. L. (2024). Using Call Annie as a generative artificial intelligence speaking partner for language learners. *RELJ Journal*. <https://doi.org/10.1177/00336882231224813>
- Wardat, S., & Akour, M. (2025). AI-powered language learning tools and their impact on EFL students' speaking anxiety in Jordanian universities. *Journal of Posthumanism*, 5(3). <https://doi.org/10.63332/joph.v5i3.785>
- Watson, A. (2024). A postmodernist qualitative research approach: Choosing between descriptive and interpretive phenomenology. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.16730>
- Wen, Y., Chiu, M., Guo, X., & Wang, Z. (2025). AI-powered vocabulary learning for lower primary school students. *British Journal of Educational Technology*, 56(2), 734–754. <https://doi.org/10.1111/bjet.13537>
- Williyan, A., Fitriati, S. W., Pratama, H., & Sakhiyya, Z. (2024). AI as co-creator: Exploring Indonesian EFL teachers' collaboration with AI in content development. *Teaching English With Technology*, 2024(2). <https://doi.org/10.56297/vaca6841/LRDX3699/RZOH5366>
- Yeh, H.-C. (2025). The synergy of generative AI and inquiry-based learning: Transforming the landscape of English teaching and learning. *Interactive Learning*

*Environments*, 33(1), 88–102. <https://doi.org/10.1080/10494820.2024.2335491>

Zhang, C., Meng, Y., & Ma, X. (2024). Artificial intelligence in EFL speaking: Impact on enjoyment, anxiety, and willingness to communicate. *System*, 121(December 2023), 103259. <https://doi.org/10.1016/j.system.2024.103259>

Zhou, X., Zhang, J., & Chan, C. (2024). Unveiling students' experiences and perceptions of artificial intelligence usage in higher education. *Journal of University Teaching and Learning Practice*, 21(06). <https://doi.org/10.53761/xzjprb23>

Zou, B., Du, Y., Wang, Z., Chen, J., & Zhang, W. (2023). An investigation into artificial intelligence speech evaluation programs with automatic feedback for developing EFL learners' speaking skills. *Sage Open*, 13(3). <https://doi.org/10.1177/21582440231193818>